

USE OF AMMONIA FOR ETCHING ORGANIC LOW-K DIELECTRICS

Abstract of the Disclosure

5 Method for etching organic low-k dielectric using ammonia, NH_3 , as an active
etchant. Processes using ammonia results in at least double the etch rate of organic low-k
dielectric materials than processes using N_2/H_2 chemistries, at similar process conditions.
The difference is due to the much lower ionization potential of NH_3 versus N_2 in the process
chemistry, which results in significantly higher plasma densities and etchant concentrations at
10 similar process conditions.